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Teachers´ and Teacher Educators´Attitudes to Educational Changes: an Insight to the Czech Educational System

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Abstract

The paper is a presentation of an analytical-comparative insight into the contemporary Czech educational system from the perspective of educational changes via teachers´ assessment and attitudes. This view is rooted mainly in the following aspects: a. permanent flexibility of the contemporary society, human being as well as schooling, b. heterogeneity of educational change and its reception, c. teachers (both prospective and in-service, as well as teacher educators) being key agents of the teaching- learning process representing a process of educational change.The paper follows the author`s experience and results from/of: 1. teaching at, and innovating, teacher education study programmes, 2. quantitative research in the field of teacher as an innovative agent of education with further ongoing theoretical studies (2007 – 2010), 3. active participation in an applied research (2012) in the field of school self-assessment, which in the Czech Republic substitutes an educational change having been implemented since 2005, 4. 2014 survey mapping teachers´ subjective view of educational changes in the Czech Republic

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*Keywords:*educational change; types of changes; educational system; Czech Republic; teachers; teacher educators; attitudes

1. Introduction

The contemporary Czech society faces a wide variety/ comprehensive set of educational changes. This paper provides an insight into the educational changes that seem to be prevalent in the contemporary Czech education system, in particular, since the beginning of the third millennium. The insight into the Czech educational change environment is realised by a survey monitoring in-service/practicing, prospective/pre-service teachers' and teacher educators´ attitudes to 9 changes or specific key innovation content of the education changes: framework

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educational programmes (FEPs), school educational programmes (SEPs), pupils´ key competences, electronic evidence of pupils, state-level of maturita examination, school optimization (merging and closing down of schools), school self-evaluation, teaching standards, innovative teaching technology.

Those current educational changes or key aspects of innovation content represent the main current issues in the Czech educational system and are viewed from the perspective of three subtypes of Czech teachers: a) in-service/practicing secondary education teachers, b) pre-service/prospective secondary education teachers (students of pre-graduate teacher study programmes), c) teacher educators (teaching at pre-service and in-service programmes). The sample is divided according to a combined criterion: the stage of professional career and type of educational institution where respndents work or study. Teachers stand in the centre of attention particularly due to the fact that from the perspective of the theory/theories of educational change/s teachers represent one of the key factors of whether a kind of equilibrium and balance between the necessity of innovation and necessity of continual development, and tradition will be achieved or not.

The paper follows some theories of educational changes and focuses on the following issues:

- What educational changes seem to prevail in the contemporary Czech society and Czech educational system from the perspective of theories of educational changes?
- What is the role of teachers´ resistance vs. innovativeness/pro-innovative involvement in terms of attitudes to changes?
- How are these changes perceived and assessed by a sample of pre-service/prospective and in-service/practicing secondary education teachers, and their educators at the Faculty of Education (University Hradec Králové)?

2. Theory of educational change: relevant concepts and a view of Czech educational changes

The key concepts from the theory of educational change, relevant to the aim of the paper, appear to be: meaning and types of educational changes, heterogeneity during the process of educational changes, and resistance to educational changes.

2.1. Educational change/s: meaning and types

Educational changes represent one of the key phenomena in the contemporary educational systems as well as an inseparable, integral part of modern pedagogy. The key instruments and dimensions of educational changes include: 1. teaching materials, 2. teaching methods, 3. teaching conceptions and theories, including opinions and attitudes (Fullan, 2001). Educational changes stand for the compendium or a system of: a. theoretical plans, projects and visions, b. activities necessary for implementing the innovations into practice, and c. implementation outcomes (Průcha, et al, 2009). Briefly said, educational change might be viewed as a multidimensional phenomenon and heterogeneous process with mutual reactive responses of change agents, recipients, and change content – innovation, process, and resistance (e.g. interfering factors), as well as the environment, and conditions (Ellsworth, 2001).

As to basic typologies of educational changes, according to the focused component of educational change, we can differentiate between: a. content-oriented changes, b. structure-oriented changes, c. methods-oriented changes, d. complex changes (oriented on combination of at least two above mentioned criteria or types), e. product-oriented changes, f. process-oriented changes (Hall, Hord, 1987).

Apart from these types there might be classified two different types according to the extent, initiative, and way of dissemination; they are called: innovative changes, and reform changes (Vrabcová, 2007). Innovative educational changes mostly represent a change of only a part (or some parts) of a system to be improved (innovated). Innovative changes are initiated at the micro level of national educational system, by expert groups, individual teachers, parents etc. Some typical examples of this type of change are bottom-up established alternative schools, or new teaching methods employed of a teacher´s or teachers´ will (on the basis of individual professional experience, instead of a

decree). The reform types of educational changes represent a change initiated at the macro level of national educational system. The reform type of change usually concerns the grounds of a system as a whole, not only selected parts. Reform types of educational changes include for example legislative changes (school acts, directives, ordinances), educational projects initiated at the top level of educational systems – at the ministry of education etc. (for more see Vrabcová, 2013).

The dichotomy of reform vs. innovative education changes suits even one of the most extensive and most prevalent, heard of as well as visible changes undergoing in the Czech Republic in the course of the last two decades. It is the multidimensional curricular reform of Czech schools initiated in 2001, following the so-called *White Paper* (*National programme for Education Development, 2001*), with consequent school-curricular documents called ´framework educational programmes´ specified for all types and stages of school education in the Czech Republic. This so called curricular reform represents a reform type of change, which was initiated at the macro-level, opening space for the real bottom-up educational change counting with bottom-up initiatives (Spilková, et al, 2004), in other words, counting with partial innovative changes. In terms of changes content we talk about a change of combined character with the focus on the content methodological point of view. In terms of typology by Hall and Hord (1987) this is particularly a process change although at the level of creation of new curriculum documents the product point is concerned. In terms of the layout of curriculum levels (Kelly, 2005) the reform change of education that is currently ongoing in the Czech Republic, has been affecting all three levels of the curriculum, i.e. content, product as well as process.

Within the contemporary Czech educational system where curricular reform has been undergoing since 2001 there appear 9 changes/specific key innovation content aspects that play important role and are a subject of many debates in recent days:

- framework educational programmes (FEPs),
- school educational programmes (SEPs),
- pupils key competences,
- electronic evidence of pupils ,
- state-level of maturita examination,
- school optimization - merging and closing down of schools,
- school self-evaluation,
- teaching standards,
- innovative teaching technology.

So called Czech curricular reform of the early third millennium is a multidimensional, complex and a long-term process. All of those features follow not only theories of educational changes but also discussion and debates analysis, personal professional experience, and interviews with practicing teachers. One of the outcomes might be formulated at the level of thesis: *Despite 13 years of the change being processed, in the Czech educational system of 2014 there persists and prevails teachers´ resistance/negative attitudes towards either the change as a whole or its selected items.*

2.2. Heterogeneity of the educational change process

Heterogeneity of the educational change process substitutes a very important aspect of the educational change as a concept as well as of the theory of educational changes. This section provides a partial insight into how this kind of heterogeneity is viewed by Fullan (2001), Rogers (1969), and CBAM theory (Hall, Hord, 1987, Shotsberger, Crawford, 1999). Fullan (2001) identifies three stages of change process: initiation, implementation and institutionalization. From the time point of view the change comes from initiation up to the institutionalization and presents a long process. In case of moderate estimate the complex change represents and needs 3 – 5 years. At changes of a greater extent there are 5 – 10 years needed.

- Stage I. Initiation (mobilisation, adoption) consists of a process which leads to making a decision to accept the change or to develop/support the change.

- Stage II. Implementation (initial use) usually presents the initial 2 – 3 years of the use, comprises the first experience related to implementing a new idea into practice.
- Stage III. Continuation (incorporation, routinization, institutionalization) describes a period, when the changes either become a part of system or are postponed or quitted.

As to Fullan (2001) the transition of the stage II in the stage III might be called unobserved transition and these two stages appear to merge.

The theory CBAM (Concerns-based Adoption Model) also allows the heterogeneity of the change process essential. The essence of the CBAM model consists in the accent on facilitators. For effective facilitating the changes it is important to understand the client, e.g. the teacher´s subjective evaluation of the change and the question how this subjective evaluation of changes is adjusted to their actions. The theory is based on three dimensions: 1. stages of concern, 2. levels of use, 3. innovation configurations. The accent on subjective evaluation results from dimension 1. stages of concern (Hall, Hord, 1987). Diagnostics of the stages of concern (and levels of use) is used in this theory to draw appropriate intervention strategy. In the history of the CBAM the stages of concern have been modified. For example, Shotsberger and Crawford (1999), with a view of the so-called SoCQ questionnaire survey, speak about five stages: 1/ stage of knowledge, 2/ personal dimension, 3/ stage of impact, 4/ stage of co-operation, 5/ stage of management or transmission. Stages of concern must be viewed as implying time dimension, which means that the length of implementation process is a factor of what effective strategies should be used (Hall, Hord, Rutherford, 1983). The move from stage to stage cannot be accelerated; the only thing that can be done is to provide sufficient support and assistance. In case of a wrong type of support the change process can be interfered (Hord et al., 1987).

2.3. Educational change resistance in the context of attitudes

Educational change resistance makes the change impossible; resistance is a kind of barrier that stops the change from proceeding. Apart from two types of resistance, attributed by Rogers (1969) to the education process and to the change environment, with a view to psychological focus on humans as a source of resistance, this paper highlights teachers as a key source of resistance, or innovative attitudes as the reverse side of resistance (Vrabcová, 2007, 2013).

Hall et al. (1975) consider the tendency to adopt/refuse the change to be an integral part of human factor. The adoption of innovative educational changes is easy for the innovators, who initiate or suggest changes. However during the change implementation or diffusion it is necessary so that even other individuals, not only innovators, adopted the change. Consequently, due to the anticipated need of the attitude change adopting the change cannot be viewed in terms of a moment/point but as a process – ideally gradual process. The attitudes´ change is therefore a complex matter dependent on several factors, such as the environment, personality development, mass media and persuasive communication. With reference to Krech, Crutchfield and Ballachey (1968) also Nakonečný (1998) points out that congruential changes (intensity increase of positive/negative attitude) are easier than incongruential changes (decrease of positive/negative attitude or a change of positive attitude into negative, or negative into positive), which are more complicated.

Lašek (2003) highlights the dependency on mutability of attitudes to the individual´s personality. As he introduces some examples, higher intelligence appears to be among assumptions of higher criticism, higher adaptability and higher sensitivity to new information but also of lower suggestibility. Furthermore, the attitudes mutability depends on good system of values, social cohesion and perceptory defence consisting in the fact that human beings perceive only that what he/she wants to.

Teachers´ adoption of the change appears easy when the change is viewed and assessed positively by the individual teacher. The author uses terms pro-innovative attitudes/pro-innovative competence/pro-innovative involvement. Pro-innovative involvement indicates the opposite of active resistance. Pro-innovative involvement is a construct consisting in a relatively permanent system of positive evaluations, positive emotional feelings and tendency to act in favour of educational changes (for more see Vrabcová, 2007). The openness towards changes, flexibility and pro-innovative involvement have become a part of new value system necessary and specific for the teaching profession

and modern ´dream teachers´. Significant findings used in the field of pro-innovative involvement of Czech teachers also result from the survey by Světlík (2004) with the aim to trace the influence of cultural dimensions and values upon the Czech teacher. Attitudes - inner components of subjective evaluation substitute also key element of school culture.

The teacher´s subjective-evaluation plays a key role in the theory of CBAM (**C**oncerns-**b**ased **A**doption **M**odel). The basic assumption of this theory is that a change cannot be adopted by social system without the change being adopted at the level of individuals. The theory implies that no client system is autocratic to the extent that a change adoption could be fully and successfully regulated or forced from above. It is necessary to provide individuals – teachers - with the opportunity not only to test the change/innovation content but also to make a truly independent decision to adopt/refuse innovations/changes. No matter how much centralised the system was, if the number of disapproving decisions reach a certain level, the innovation/change will come to an end (Ellsworth, 2001). The CBAM theory provides an insight into how the individual´s decision-making functions with a focus on the intended receiver.

People´s resistance to change seems to be universal and natural. Resistant attitudes seem to concern a vast majority (60 – 80 %) of educational staff, for example, on the occasion of a new course opening (Prášilová, 2006). This type of resistance arises from the response-cycle described, for example, by Urban (2003). The cycle comprises four stages, typical with the following features: 1. denying any change possibility immediately, 2. endeavour to resist changes, 3. concern for what the change is like and what its aims are (the concern at this stage follows the personal discovery that resistance is vain and of no use, and that the change has/might have some positive effects as well), 4. accepting the change (Prášilová, 2006).

Juklová (2013), along with Stuchlíková (2006) and Bullough (1991), considers internal, conceptual transformation in terms of a new interpretation of the findings to be a key moment for change adoption. New interpretation of phenomena requires considerable cognitive and metacognitive efforts and perseverance of the individual being. Poster, Strike, Hewson and Gertzog (1982, In Stuchlíková, 2006) have investigated the causes of change resistance that appear to be specific within the existing mind structures, and conclude that changes in the student's conceptual approach to teaching occurs only on the following conditions: 1. dissatisfaction with the existing professional conception of himself, 2. understanding the new alternative on the offer, 3. credibility of the new alternative, 4. new alternative offers the student opportunity to overcome shortcomings of the current approach.

Therefore, the phenomenon of resistance is, to a certain extent, a natural part of every educational change and it needs to be taken into consideration. The act of rejecting changes appears to be more obvious in organisations arousing the feeling that the organisation provides protection to the people employed there (educational institutions of any kind might belong to this category of organisations, apart from the army, police, public health service etc.). On the other hand, the first, initial resistance might contribute to unsuccessful realisation of educational changes, and it can also reveal non-structured, non-transparent, unsatisfactorily planned, and managed change (Lazarová, 2001). For example Obst (2003), Prášilová (2006), and Průcha, et al. (2009 enumerate some other possible causes for change resistance and rejecting the changes. The theory of educational change/s represent a rich source of inspiration. At this point, however, the paper focuses on the issue: What are the Czech in-service/practicing teachers´, prospective teachers´ and teacher educators´ real attitudes to dominant educational changes or aspects of educational innovation content in the Czech Republic?

3. Czech teachers´ attitudes to dominant educational changes/innovation concepts: survey

What are the Czech in-service/practicing teachers´, prospective teachers´ and teacher educators´ real attitudes to dominant educational changes or aspects of educational innovation content in the Czech Republic? In order to unfold this question a survey was conceived, and realized at the beginning of the year 2014. The actual data collection was made in May 2014.

3.1 Used methods

The survey uses a questionnaire as the main method. The questionnaire is divided into three areas: Part I. maps the basic information about a school/institution, where the respondent works. Part II focuses on data characterizing the respondent individually. Part III. monitors the attitudes of prospective or practising teachers and teacher educators to 9 educational changes or its partial aspects.The paper views attitudes as value-oriented or objective side-oriented mental states, in the sense of permanent system of positive or negative evaluation, emotional feelings and tendency to act in favour or against the social object of the attitude (Krech, Crutchfield and Ballachey, 1968, Lašek, 2003). Attitudes as subjective evaluation relations of teachers in given survey represent the starting point for monitoring teacher´s innovativeness vs. tendency to resist educational changes. The attitudes are monitored by crediting appetency/aversion to 9 educational changes or their aspects. At each educational change there is used a semantic differential in the form of 12 scales of Likert type, bipolar ranges marked by the following, pairs of contradictory attributes: 1. pleasant/unpleasant, 2. needed/unnecessary, 3. low quality/high quality, 4. demanding/facilitating, 5. effective/ineffective, 6. hasty/well-prepared, 7. useless/beneficial, 8. harmful/contributing, 9. helping/requiring 10. demotivating/motivating, 11. efficient/inefficient, 12. unpromising/with good prospects. Respondents tick their subjective evaluation on the 7-point scale, or tick the letter *"N = not interested, cannot judge, not within the sphere of my interest – focus."*

Statistical data processing for the purpose of this paper uses: chí-squared test χ^2 and other comparison with the values of corresponding test criteria or calculation of coefficient of contingency C, standardized coefficient of contingency C_{norm} or Tschuprow's *T* coefficient. Furthermore a tick z-score is used and a tick chart for pivot table. In case of no statistically significant relation between subjective evaluations of the three sample subgroups, the data are presented for the sample as a whole.

3.2 Research sample

The respondents represent teachers divided according to the stage of professional development and educational institutions, where teachers work and student teachers study. The sample therefore comprises of:

- Student teachers - studying at undergraduate study teaching programme for the 2nd grade of basic schools (lower secondary education) and/or for various types of Czech secondary schools (upper secondary education),
- Practicing teachers, working in lower or higher secondary education,
- Teacher educators.

There were distributed 268 questionnaires (students: 100, teachers: 80, teacher educators: 88). The following tables 1 and 2 illustrate key fatures of the sample.

Table 1 shows the total response rate of questionnaires: 41.4 % (111 questionnaires out of 268). The response rate of the questionnaires ranges in individual groups from 22.7 % in the group of teacher educators up to 57.0 % in the group of student teachers. The questionnaire response rate is rather low, in case of teacher educators very low. Low response rate is partly commented within the presentation of the main selected findings.

Table 1. Response rates

	Practicing teachers		Teacher educators		Student teachers		Total
	Frequency	%	Frequency	%	Frequency	%	
Distributed questionnaires	80	100	88	100	100	100	∑268
Response rate	34	42.5	20	22.7	57	57.0	∑111

As to the gender the research sample (n = 111) consists of 31.5 % men and 68.5 % women. In the group of

practicing teachers there are 23.5 % and 76.5 % women while the group of teacher educators consists of 45.0 % men and 55.0 % women. Among student teachers there are 31.6 % men and 68.4 % women. Despite the fact that the sample size illustrates the first stage of the research in a form of pre-research, it is evident that all groups copy the trend of feminization in education (the smallest in the tertiary education). In the following Table 2 there are other characteristics of the sample: average age and age range.

Table 2. Other characteristics of the sample

	Practicing teachers	Teacher educators	Student teachers	Total
Average age	39.27	49.1	23.6	37.32
Age range	25 – 55	27 - 77	22 – 27	22 - 77

3.3 Teachers' attitudes to current educational changes in the Czech Republic: statistically important relations

Based on statistical processing (see above) there is a zero hypothesis confirmed for four educational changes or concepts/aspects of educational changes. There is no statistically significant relation between the stage of professional development of the teacher and SEP, FEP, standards of teachers and innovations in didactic technology. Subjective evaluation of individual subgroup of respondents, i.e. practicing teachers, teacher educators and student teachers, is presented in the following chart (Figure 1). Figure 1 uses subjective evaluation differentiated into four zones called: lack of concern, negative attitudes, neutrality, involvement (pro-innovative attitudes). Due to the fact that at this point there is no proof of statistically significant relations between how the FEP, SEP, standards and technological innovations are evaluated by practicing teachers, teacher educators and student teachers, the following chart describes the parts of their attitudes differentiated into four zones in total, i.e. without a distinction between the three subgroups.

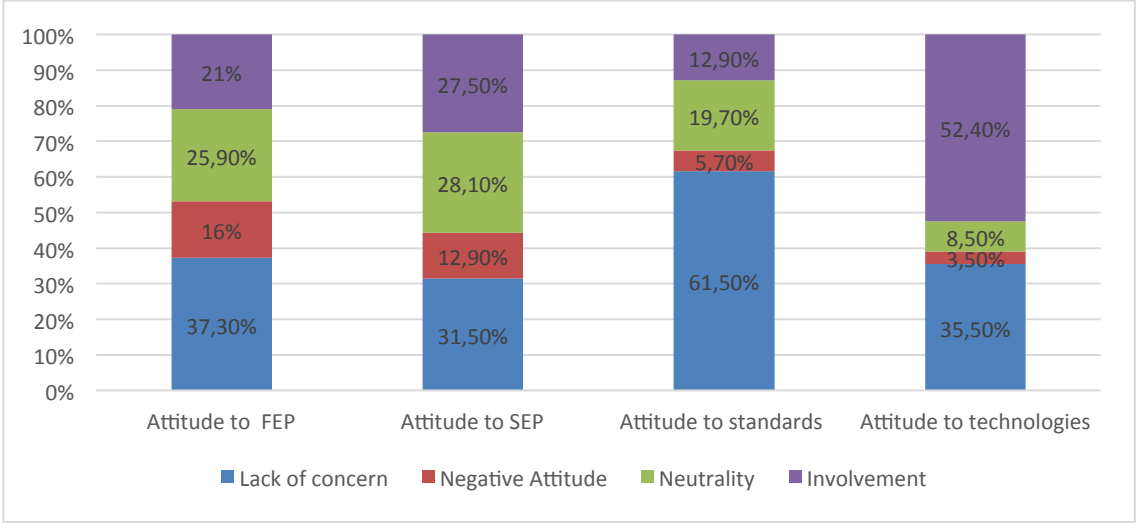

Fig. 1. Sample´s attitude to FEP, SEP, standards and technological innovations (%)

Figure 1 shows that the largest representation in the sample concerns the zone of lack of interest in case of attitudes to standards (61.5%) and furthermore the zone of involvement/pro-innovative attitudes to technological innovations (52.4 %). For more see Figure 1.

Apart from chi-square the data were subjected to assessment based on z-score and z-chart. In the following table there is the final tick chart for the pivot table. The criterion for inclusion into Table 3 relates to statistically significant confirmation of the relation, based on relevant statistics.

Table 3. Tick chart of the pivot table in the field of educational changes

	Involvement	Neutrality	Negative attitude	Lack of concern
Practicing teachers	Key competences (-)	0	School self-evaluation (+) Technology (+) Key competences (+)	Evidence (+)
Teacher educators	0	0	State exam/maturita (---)	Key competences (+) Evidence (+) FEP (+) SEP (+) State-exam/aturita (++) Merging/Closing down of schools(+)
Student teachers	Key competences (+)	0	State exam/maturita (+)	Evidence (-) State exam/maturita (--)

Complex view of the findings resulting from the tick chart (Table 3), with a focus on the changes/concepts with more numerous significant z-scores, reveals the following statements:

- Within the range of attitudes to ´key competences´ the monitored sample is dominated by resistant attitudes, particularly by combination of the zones: negative attitude and lack of concern credited by practicing teachers and teacher educators but also by the zone of involvement credited by student teachers.
- Within the range of attitudes to ´maturita state examination´ the monitored sample is dominated by the zone lack of concern credited by teacher educators and significantly prevailed by the zone of negative attitude credited by student teachers.
- As to the attitudes to ´innovations in the field of evidence´ there dominates the lack of concern credited by practicing teachers and teacher educators; among student teachers the observed frequency of the lack of concern is on the contrary lower than the expected frequency.
- From the changes evaluated by the questionnaire there is one and only change with no significant z-score/s: ´teaching standards´.

What conclusions result from the tick chart and the observed groups´ point of view?

- In case of practicing teachers there is significantly higher observed frequency in the zone of negative attitude to three changes/concepts: school self-evaluation, technological innovations, key competences, and in the zone lack of concern for innovations in the field of electronic evidence. There is also significantly lower frequency (according to z-score) in the zone of involvement/pro-innovative attitudes to key competences (level of significance 0.05).
- In case of teacher educators there is significantly higher observed frequency in the zone lack of concern for 6 changes/concepts: key competences, innovations in electronic evidence, FEP, SEP, merging/closing down schools (level of significance: 0.05) and on the level of significance 0.001 this finding relates to the state maturita examination. Significantly lower observed frequency concerns the negative attitudes to state maturita examination.
- In case of student teachers there is significantly higher observed frequency both of involvement/pro-innovative attitude to key competences and negative attitude to state maturita examination (level of significance: 0.05). Negative values of z-score implify significantly low observed frequencies in the zone lack of concern for 2 changes/concepts: innovations in the field of electronic evidence (level of significance: 0.05) and state maturita examination (level of significance 0.01).

4. Conclusion

The concept ´educational change´ is becoming one of the key concepts in the field of educational sciences (pedagogy), not only in the field of management or school management. Teachers´ and teacher educators´ awareness

of fundaments from the theory of educational changes might facilitate novice teachers´ entry into the real learning-teaching process at schools, in particularly. This kind of awareness (at levels of attitudes, knowledge, and skills, or competences) can support teachers´ professional development and career, and enables to fight against burnout effect, or subconscious resistance, for instance. The possibility to employ the theory of educational change and resistance effectively is probable even in the sphere of novice teachers´ low professional self-esteem and self-assessment (for more see e.g. Vrabcová, 2013). The theory of change and resistance is available for better understanding false explanations/interpretations of quite many educational circumstances. Empirical exploration of teachers´ and participating subjects´ attitudes to educational changes is needed however.

The holistic assessment of the tick chart presented in this paper covering all of the concerned changes reveals demonstrable tendency of significantly higher positive z-scores and therefore significantly higher observed frequencies in the zone of resistance (negative tendency or lack of concern). There is negative tendency at some changes, resp. tendency to resistance supported by the findings of occurrence of zero correlation in the zone of involvement and neutrality combined with significantly lower frequency in the zone lack of concern. The zone ´lack of concern´ is by the CBAM theory a zero stage, foregoing in the cycle of change adoption even the stage of negative evaluation; this conclusion applies to subjective evaluation of:

- state maturita examination by teacher educators,
- key competences by practicing teachers.

Relatively negative interpretation of findings based on the z-score, namely stating the sample´s tendencies to resist the assessed changes might be employed to add emphasis on quite extremely low response rates in case of teacher educators; which counts although, of course, even other causes, such as low identification with the questionnaire´s form or content, work demand during the time of questionnaire survey, must be taken into consideration. Therefore, extremely low response rates can also support and illustrate Czech teachers´ tendency to resist the monitored and ongoing educational changes.

The undertaken survey (2014) apparently even due to the sample size (no matter the low response rates as a cause) proves to be only a partial stage of a broader research, which will go in more details of teachers' attitudes, resistance and pro-innovative attitudes. Broader investigation requires deeper meta-analysis and comparison with findings of the 2007 survey mapping pro-innovative attitudes of Czech teachers to curricular reform at the introductory stages of its implementation (Vrabcová, 2007). The ongoing research and analysis/comparison focus on applying quantitative-qualitative approach.

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